

IN THE CLAIMS

Please amend the claims as follows:

1-36. (Canceled)

37. (Previously Presented) An atmosphere for a chemical vapor deposition process, comprising:

a deposition gas having a chemical reactivity with a reactant gas; and

a chemically inert reaction promoter mixed with said deposition gas at a rate of about 0.4 to 0.6 of a rate of flow of the reactant gas to form a high density plasma at a total pressure of greater than 1 millitorr.

38. (Previously Presented) The atmosphere of claim 37 wherein said deposition gas is a film precursor deposition gas having a flow rate of greater than 10 sccm.

39. (Previously Presented) The atmosphere of claim 37 wherein said deposition gas is a metal film precursor deposition gas, the reactant gas includes hydrogen at a flow rate of about 10,000 sccm, and the reaction promoter includes argon at a flow rate of at least 4,000 sccm.

40-66. (Canceled)

67. (New) An atmosphere for a chemical vapor deposition process, comprising:

a deposition gas mixture having at least two distinct chemical materials acting as a precursor and a reactant, the deposition gas mixture having a precursor to reactant chemical reaction potential; and

a chemically inert reaction promoter mixed with said deposition gas.

68. (New) The atmosphere of claim 67, wherein the precursor has a first flow rate, the reactant has a second flow rate, and the reaction promoter has a third flow rate that is between 10% to 100% of the second flow rate.
69. (New) The atmosphere of claim 68, wherein the reaction promoter has a flow rate that is approximately 40% of the second flow rate.
70. (New) The atmosphere of claim 68, wherein the first flow rate is approximately 10 sccm, the second flow rate is approximately 10,000 sccm, and the third flow rate is approximately 4,000 sccm.
71. (New) The atmosphere of claim 67, wherein:
- the chemical vapor deposition process comprises at least one of a low pressure chemical vapor deposition, a plasma enhanced chemical vapor deposition, an inductively coupled high density plasma chemical vapor deposition;
 - the precursor comprises a metal film precursor deposition gas selected from a list including an organometallic material, a metal oxide, a metal fluoride, a metal chloride, tetrakis (diethylamino) metal, and tetrakis (dimethylamino) metal;
 - the reactant is selected from a list including hydrogen, oxygen, chlorine, fluorine, bromine, iodine and combinations thereof; and
 - the reaction promoter includes gases that are not chemically active with a selected one of the precursors and a selected one of the reactants, and are selected from the list including argon, neon, krypton, xenon, radon, nitrogen and combinations thereof.
72. (New) The atmosphere of claim 71, wherein the precursor comprises titanium tetra chloride, the reactant comprises hydrogen, and the reaction promoter comprises argon.
73. (New) The atmosphere of claim 67, wherein the chemical vapor deposition process has an atmospheric pressure in a reaction chamber of between 1 milli Torr to 10 Torr.

74. (New) An atmosphere for a plasma enhanced chemical vapor deposition process, comprising:

a precursor material;

a reactant material;

a reaction promoter material;

a reaction chamber for containing the atmosphere including an exhaust pump having a controllable pumping rate, a heater, a temperature controller and a pressure measuring system; and

a mixing system for the precursor material, the reactant material and the reaction promoter material.

75. (New) The atmosphere of claim 74, wherein the precursor material has a flow rate of from 1 to 100 sccm, the reactant has a flow rate of from 5,000 to 15,000 sccm, and the reaction promoter has a flow rate between 30% to 50% of the reactant flow rate.

76. (New) The atmosphere of claim 75, wherein the reaction chamber of between 1 milliTorr to 10 Torr, and a temperature of from 150 to 500 degree C.

77. (New) The atmosphere of claim 74, wherein the precursor material is selected from the list including an organometallic material, a metal oxide, a metal fluoride, a metal chloride, tetrakis (diethylamino) metal, and tetrakis (dimethylamino) metal.

78. (New) The atmosphere of claim 74, wherein the precursor material contains titanium.

79. (New) The atmosphere of claim 74, wherein the reactant material is selected from a list including hydrogen, oxygen, chlorine, fluorine, bromine, and iodine.

80. (New) The atmosphere of claim 74, wherein the reaction promoter is not chemically active with a selected one of the precursor materials or a selected one of the reactant materials, and is selected from the list including argon, neon, krypton, xenon, radon, and nitrogen.
81. (New) An atmosphere for a chemical vapor deposition process, comprising:
a deposition gas having a chemical reactivity with a reactant gas;
a chemically inert reaction promoter mixed with said deposition gas at a rate of about 0.4 to 0.6 of a rate of flow of the reactant gas to form a high density plasma at a total pressure of greater than 1 millitorr;
wherein said deposition gas is a film precursor deposition gas having a flow rate of greater than 10 sccm;
wherein the reactant gas has a flow rate of about 10,000 sccm; and
the reaction promoter has a flow rate of at least 4,000 sccm.
82. (New) The atmosphere of claim 81, wherein said deposition gas is a metal film precursor deposition gas, the reactant gas includes hydrogen, and the reaction promoter includes argon.
83. (New) The atmosphere of claim 81, wherein said deposition gas is a titanium-containing gas selected from the list including an organometallic, a titanium oxide, a titanium tetra fluoride, a titanium tetra chloride, tetrakis (diethylamino) titanium, and tetrakis (dimethylamino) titanium.
84. (New) The atmosphere of claim 81, wherein said reactant gas is selected from the list including hydrogen, oxygen, chlorine, fluorine, bromine, and iodine.
85. (New) The atmosphere of claim 81, wherein said reaction promoter is not chemically active with a selected one of the precursor materials or a selected one of the reactant materials, and is selected from the list including argon, neon, krypton, xenon, radon, and nitrogen.